

## FX-TA-10HS Texture analyzer



FX-TA-10HS can be applied to the physical property analysis of gelatin, carrageenan, cordran gum, frozen surimi gel, agar composite hydrogel, drugs, cosmetics, dairy products, meat products, aquatic products, grain and oil food, rice products, flour products, Chinese medicine, tobacco, fruits and vegetables, baked food, jelly, candy, jam, and other samples;

It can accurately quantify the gel strength, hardness, brittleness, tenderness, viscosity, elasticity, toughness, cohesion, chewiness, tensile strength, breaking strength, shear strength, compressive strength, penetration strength, creep characteristics, relaxation characteristics and other physical indicators of the sample.

### 1. Main technical parameters

1.1 Strength sensing element size: 20Kg (optional for 0.5, 1, 2, 5, 10, 20, and 25Kg)

2.2 Power analysis accuracy: 0.001g (real-time synchronous display)

1.3 Force accuracy error:  $\leq \pm 0.01\%$

1.4 The instrument has multiple protection functions: emergency braking, upper and lower limit control, force sensing element overload protection (customizable over limit warning settings), and detection data encryption.

1.5 Measurement arm range: 0-310mm

\*1.6 Displacement analysis accuracy: 0.0001mm (real-time synchronous display)

1.7 Detection rate: 0.01~40mm/s

1.8 Detection rate error:  $\leq 1\%$

\*1.9 Data collection rate: up to 3000 sets/second, can be checked: 200, 500, 1000, 2000

\*1.10 Strength accuracy verification measurement and automatic calibration: The instrument provides an accuracy measurement and verification control interface. Through 5 consecutive standard sample tests, qualified or out of tolerance detection data is determined and directly displayed on the software. The instrument automatically completes measurement and calibration through data algorithms, and prints measurement reports on its own. The data is also stored in the audit database.

\*1.11 Deformation displacement accuracy verification measurement and automatic



calibration: The instrument is equipped with a displacement accuracy measurement operation interface, which communicates with the software through an electronic micrometer to determine whether the detection data is qualified or out of tolerance, and is directly displayed on the software. The instrument automatically completes measurement and calibration through data algorithms, and prints measurement reports on its own. The data is also stored in the audit database.

#### 1.12 Testing Methods: (Provide more than ten testing methods)

Single compression, cyclic test, compression retention test, relaxation property test, creep property test, full texture test, tensile test, compression test, bending test, shear test, puncture test, meat tenderness test, freezing strength test, carrageenan surimi gel available gelatin agar strength hydrophilic gel test, flour product test, rice product test, aquatic product test, adhesion test, compression modulus, elastic modulus test, etc. The software also supports quick customization and addition of test modes.

## 2. Introduction to System Software

2.1 Comprehensive experimental mode program editing function; Run, preset, repeat, loop, clear, zero, assign, variable, formula, calculation, replay, compare, annotate, etc. By editing these program commands, various detection modes can be achieved, various experimental models can be built, and the required experimental data can be obtained.

\*2.2 Test playback: The software automatically records the entire process of the test (including synchronous recording) and provides multiple intelligent retrieval methods. Data restoration, curve redrawing, and synchronous video playback can be carried out for experiments that can be traced back to any period, to observe and analyze the test details of the queried samples.

\*2.3 The software can simultaneously select 5 current or historical test results (function curves, measurement data, synchronous recording) for comparative analysis.

The software can display multiple texture curves in different colors, making it convenient and intuitive to compare and analyze the results of multiple experiments.

2.2 Data Analysis: The software can display four function curves: force time, force distance, distance time, and stress strain. The curve contains a scale, which can be locally scaled or automatically adjusted by the system. At the same time, key data points can be automatically labeled. During data analysis, it can automatically generate and export Excel/Word/PDF files for any area of the selected graph field, any required data point parameters, and automatic calculation results (including curves, stacked curves, images, and data).

The CTA-10HS system software provides more in-depth solutions and descriptions for each type of testing. In addition to the regular testing mode, it also provides users with extended and customized program editing and practice. Can easily create custom reports and test graphs; Test data can be directly exported to various formats such as Excel/Word/PDF, and can be exported, charted, saved, compared, and professional reports can be generated.

2.6 The software supports detection modes: timing, positioning, fixed load, single cycle, multi cycle, compression, stretching, puncture, shear, bending, compression, adhesive, tear, hold, intermittent, fracture, fracture, relaxation, creep, custom modeling, etc.

2.7 Software operation interface is user-friendly: menu bar, toolbar, status bar, display bar, curve box, video box, and experimental process are clear and easy to operate buttons.



2.8 The software provides two operating systems, Chinese and English, with one click switching.

2.9 The software has powerful technical support functions. Users can find any prompts, routines, parsing, methods, or links they need in the drop-down menu of the "Help" column of the software. Provide 22 classic case methods for testing major categories and 20 practical teaching videos to help you quickly become an expert in property analysis.

\*2.10 The software has a copyright certificate recognized and approved by the National Copyright Administration of the People's Republic of China. The full name of the software is "Texture Analyzer Control Analysis Software". This software has the functions of operation, control, and data analysis for the texture analyzer. The data analysis algorithms of the software include but are not limited to principal component analysis algorithms, linear discriminant analysis algorithms, and partial least squares regression algorithms. Thus achieving quantitative measurement and evaluation of human senses and instruments, obtaining mechanical characteristics of samples, and helping experimenters to obtain relatively accurate results; The storage period, freshness, texture, fermentation time, chewing characteristics, and other reference criteria of the sample.

### 3 Applicable standards:

◆ Chinese Pharmacopoeia 2020 edition.

Comply with current Chinese GMP regulations.

◆ National standard "Food Additive Gelatin" GB6783-2013.

◆ National standard GB13731 for medicinal gelatin hard capsules.

◆ National standard GB28304-2012 "Food Additives Gelatin Gelatin"

◆ National standard "Frozen Fish Flour" GB/T36187-2018

◆ Light Industry Standard "Edible Gelatin" QB/T4087-2010

Agricultural industry standard "Determination of meat tenderness - Shear force determination method" NY/T1180-2006

◆ AACC 74-09 Bread Hardness Test (American Grain Chemical Society)

◆ AOAC (American and European gel Association)

